

Pogroszewska A¹, Szkultecka-Debek M², Paulic G³, Maric D³, Sinisa A³, Pecenk J⁴, Tavcar R⁵, Indrikson A⁶, Jankovic S⁷, Pulay AJ⁸, Rimay J⁹, Varga M⁹, Sulkova I¹⁰
¹Arcana Institute, Cracow, Poland, ²Roche Polska Sp. z o.o., Warsaw, Poland, ³Roche Ltd., Zagreb, Croatia, ⁴Faculty of Medicine, Comenius University, Bratislava, Slovak Republic, ⁵University Psychiatric Hospital, Ljubljana, Slovenia, ⁶Roche Eesti OÜ, Estonia, Tallinn, Estonia, ⁷Faculty of Medical Science, University of Kragujevac, Kragujevac, Serbia and Montenegro, ⁸Semmelweis University, Budapest, Hungary, ⁹Roche (Magyarország) Kft, Hungary, Budaörs, Hungary, ¹⁰Roche Slovensko, s.r.o., Bratislava, Slovak Republic

OBJECTIVES: To gather data concerning burden of schizophrenia in seven Central and Eastern European (CEE) countries (Croatia, Estonia, Hungary, Poland, Serbia, Slovakia, Slovenia) taking into account: epidemiology, clinical guidelines and recommendations, current standards of care, costs of illness, resource utilisation, health-related quality of life (HRQoL), stigmatisation and discrimination related to schizophrenia. The project focused on negative symptoms (NS). **METHODS:** A targeted search was performed focused on publications issued from 1995 onwards and indexed in the following databases: PubMed, Cochrane Library, and Centre for Review and Dissemination. Moreover, searches for literature in local languages from each country of interest were conducted. **RESULTS:** Fourteen reviews related to schizophrenia epidemiology were identified and revealed that the mean incidence of schizophrenia varied greatly from 0.04 to 0.58 per 1,000 population and lifetime prevalence from 0.4% to 1.4%. At least one negative symptom was found to be present in 57.6% of schizophrenia patients and in 50–90% of individuals experiencing their first schizophrenia episode. Primary NS were observed in 10–30% of patients. Mortality of schizophrenia patients was greater than in the general population (Standardised Mortality Ratio varies between 2.58 and 4.3), potentially due to increased suicide risk, effect of illness on lifestyle and environment, and side effects of disease treatment. Identified guidelines indicate a role for second-generation antipsychotics in NS treatment, nevertheless the development of novel therapeutic approaches should be pursued actively. Thirty-seven primary publications identified from the seven CEE countries which relate to HRQoL of patients and caregivers revealed that the disease greatly affects HRQoL of hospitalised patients and has a significant negative impact on caregivers' QoL. **CONCLUSIONS:** The literature review confirmed that schizophrenia is one of the most common and burdensome mental illnesses, with NS present in a relatively large percentage of patients.

PMH27

NEW ESTIMATES OF THE DIRECT MEDICAL COST OF ATTENTION-DEFICIT/HYPERACTIVITY DISORDER (ADHD) IN GERMANY

Schlender M¹, Trott GE², Banaschewski T³, Schwarz O⁴

¹University of Heidelberg, Wiesbaden, Germany, ²University of Wuerzburg, Aschaffenburg, Germany, ³University of Heidelberg, Mannheim, Germany, ⁴Institute for Innovation & Valuation in Health Care, Wiesbaden, Germany

OBJECTIVES: To assess the excess direct medical costs associated with a diagnosis of attention-deficit/hyperactivity disorder (ADHD) in Germany. **METHODS:** Nordbaden is a region in Southwestern Germany with a population of 2.74 million. Regional sociodemographics and health care provider density are well understood and reflect, with few exceptions, respective national averages. The Nordbaden database covers the total regional population insured by SHI (2.24 million lives), integrating administrative data from the organization of physicians registered with statutory health insurance (SHI) and SHI, allowing patient-centered evaluation of health care utilization and direct medical cost for years 2003 to 2009. Patients with a diagnosis of ADHD were compared to a control group matched by age, gender, and type of health insurance within SHI. Here we report on years 2006–2009, as nonpharmacological therapy-related cost data were not fully available for earlier years. **RESULTS:** Average annual total cost per ADHD patient increased from €897 in 2006 to €1,006 in 2009 (controls, €261 in 2006 and €337 in 2009). Cost per patient correlated positively with age, and female patients were generally more costly than males (total as well as excess costs). Increasing severity and comorbidity were also associated with higher costs per patient. Physician services constituted the major cost component (on average, overall, €653 per case in 2009), followed by pharmacological therapy (€330 in 2009). **CONCLUSIONS:** The average excess cost (from the perspective of German SHI) per ADHD patient (over all age groups and irrespective of gender, compared to matched controls) was €669 per year in 2009. Extrapolation from the regional to the national level suggests annual outpatient treatment costs attributable to ADHD in the magnitude of €500 million (2009), from the payer's perspective of SHI. This estimate compares to total annual expenditures for health services by German SHI of €160 billion in 2009.

PMH28

A SYSTEMATIC REVIEW OF COST-OF-ILLNESS STUDIES AND COST-EFFECTIVENESS ANALYSES IN BORDERLINE PERSONALITY DISORDER

Brettschneider C¹, Riedel-Heller S², König HH¹

¹University Medical Center Hamburg, Hamburg, Germany, ²University of Leipzig, Leipzig, Germany

OBJECTIVES: The borderline personality disorder (BPD) is a common mental disorder. It is frequently associated with various mental co-morbidities and causes a fundamental loss of functioning. Furthermore, economically relevant consequences such as high utilization of inpatient and emergency room treatment or reduced productivity at work have been reported. The aim of this study is to present the existing health economic evidence regarding BPD and to point out implications for further research. **METHODS:** We performed a systematic literature search in MEDLINE, EMBASE, PsycInfo and NHSEED to identify cost-of-illness studies (COI), cost-effectiveness analyses (CEA) and other cost studies (OCS) regarding BPD. Cost data were inflated to the year 2010 and converted into US-\$ using purchasing power parities (PPP). Quality assessment of the studies was performed by means of a standardised quality checklist. **RESULTS:** We identified three COI, eight CEA and six OCS. The methodical quality was moderate. Depending on study perspective and considered cost categories cost per patient and year ranged from 18,306 US-\$

PPP to 69,231 US-\$ PPP. A co-morbid conduct disorder was reported to be the most influential factor for increased health care costs. All CEA analysed psychotherapy interventions. While CEA reporting cost per avoided parasuicide event indicated favourable incremental cost effectiveness ratios, CEA reporting cost per quality-adjusted life years (QALY) indicated just weak cost-effectiveness. **CONCLUSIONS:** BPD is associated with high costs. Available COI provide a first insight into the structure of cost and its predictors. There are no CEA regarding medication for BPD. Evidence regarding the cost-effectiveness of psychotherapy interventions is ambiguous. Future research should promote the understanding of the economic aspects of BPD and determine the societal value of its treatment. In this context high methodical standards are particularly important.

PMH29

HEALTH INSURANCE COST OF EPILEPSY IN HUNGARY: A COST OF ILLNESS STUDY

Oberfrank F¹, Donka-Verebes É², Boncz I³

¹Institute of Experimental Medicine (IEM), Budapest, Hungary, ²Integra Consulting zRt., Budapest, Hungary, ³University of Pécs, Pécs, Hungary

OBJECTIVES: To calculate the annual health insurance treatment cost of epilepsy disease in Hungary. **METHODS:** The data derive from the financial database of the Hungarian National Health Insurance Fund Administration (NHIFA), the only health care financing agency in Hungary. We analyzed the health insurance treatment cost and the number of patients for the year 2010. The following cost categories were included into the study: out-patient care, in-patient care, CT-MRI, PET, home care, transportation, general practitioner, drugs and medical devices. **RESULTS:** The Hungarian National Health Insurance Fund Administration spent 6.341 billion Hungarian Forint (HUF) (23.026 million EUR) for the treatment of epilepsy patients. The annual average expenditure per patient was 41900 HUF (152.1 EUR) while the average expenditure per one inhabitant was 633 HUF (2.3 EUR). Major cost drivers were pharmaceuticals (6.3 % of total health insurance costs), general practitioners (13.1 %) and acute inpatient care (11.4 %). The number of patients with epilepsy was 151 per 100,000 populations. We found the highest patient number in pharmaceutical budget (151357 patients), out-patient care (131280 patients) and general practitioners (86704 patients). **CONCLUSIONS:** Epilepsy disease represents a significant burden for the health insurance system. Pharmaceutical treatment is the major cost driver for epilepsy disease in Hungary.

PMH30

HEALTH CARE RESOURCE UTILIZATION AND COSTS ASSOCIATED WITH ATYPICAL ANTIPSYCHOTICS USE IN CHILDREN AND ADOLESCENTS WITH ATTENTION DEFICIT/HYPERACTIVITY DISORDER IN QUEBEC, CANADA

Lachaine J¹, Sikirica V², De G³, van Stralen J⁴, BenAmor L¹, Hodgkins P², Yang H⁵, Heroux J⁶

¹University of Montreal, Montreal, QC, Canada, ²Shire, Wayne, PA, USA, ³Analysis Group, Inc., New York, NY, USA, ⁴Center for Pediatric Excellence, Ottawa, ON, Canada, ⁵Analysis Group, Inc., Boston, MA, USA, ⁶Groupe d'analyse, Montreal, QC, Canada

OBJECTIVES: To compare health care resource utilization (HRU) and costs among children/adolescents with attention deficit/hyperactivity disorder (ADHD) in Quebec, Canada, who received an atypical antipsychotic (AAP) as either augmentation or alternative therapy to stimulant, before vs. after initiating the AAP. **METHODS:** Patients (6–17 years) with ≥2 documented ADHD diagnoses (ICD-9 codes: 314.0–314.9), who used stimulants for ≥30 days and either switched to an AAP or augmented stimulants with an AAP, were identified in Quebec's health care database, the Régie de l'assurance maladie du Québec between 03/2007 and 02/2012. Patients with a documented diagnosis for which AAPs are indicated were excluded. All-cause and ADHD-related HRU and costs (from a public payer's perspective in 2012 Canadian dollars) were compared between the 6-month period before (pre-index) and after (post-index) patients' first AAP prescription claim. **RESULTS:** A total of 453 children/adolescents met the inclusion criteria (54.5% switched from stimulants to AAPs and 45.5% augmented stimulants with AAPs). The mean age was 10.4 years (SD=2.5) and 25.4% were female. The most prevalent documented mental comorbidities in the pre-index period were adjustment reaction (7.1%), anxiety disorder (5.1%), and learning disability (4.4%). Risperidone (81.7%) and quetiapine (16.3%) were the most common AAPs initiated. Compared to the pre-index period, patients incurred, on average, more all-cause outpatient visits and costs (3.2 vs. 4.6; \$207 vs. \$303), prescription fills and costs (13.3 vs. 22.2; \$710 vs. \$889), total medical costs (\$644 vs. \$1,096), and total health care costs (\$1,354 vs. \$1,985) (all p<0.05) during the post-index period. Similarly, ADHD-related total health care costs (\$835 vs. \$1,269; p<0.05) were higher during the post-index period; all-cause and ADHD-related total health care costs increased by 46.6% and 52.0%, respectively. **CONCLUSIONS:** Children/adolescents with ADHD, who received an AAP as either augmentation or alternative therapy to stimulant, incurred higher HRU and costs after AAP initiation, mostly through ADHD-related HRU.

PMH31

REGISTER BASED ANALYSIS OF TREATMENT COSTS OF SECOND GENERATION ANTIPSYCHOTICS IN SCHIZOPHRENIA

Borsi A¹, Takacs P¹, Feher L¹

Janssen Cilag Hungary, Budapest, Hungary

OBJECTIVES: The goal of our research was to assess and calculate the costs of antipsychotic treatment of schizophrenia patients in Hungary, using the database of the National Health Insurance Fund (NHIF). Based on the results of a recently published study using real world data (Bitter et al. 2013) we focused especially on the costs linked to the early medication discontinuation and poor adherence of schizophrenia patients. **METHODS:** In Hungary all medicines which are purchased with reimbursement are documented in the centralized register of the NHIF since 1998. We analyzed the Payer's database taking into account the time to treatment discontinuation results of the Bitter et al. study. We calculated the yearly average costs of schizophrenia treatment both per patient, and both per substance